

SITUATION

Caradon Mira is a leading producer of showers and water mixing valves for domestic, institutional and industrial use. To maintain its leading position in the face of increasing competition, Caradon Mira knew it had to find a way to get new and revitalized products to market faster. In this particular case, the company focused on improving a shower mixing valve design to make it more attractive and take advantage of continued market potential.

OBJECTIVES

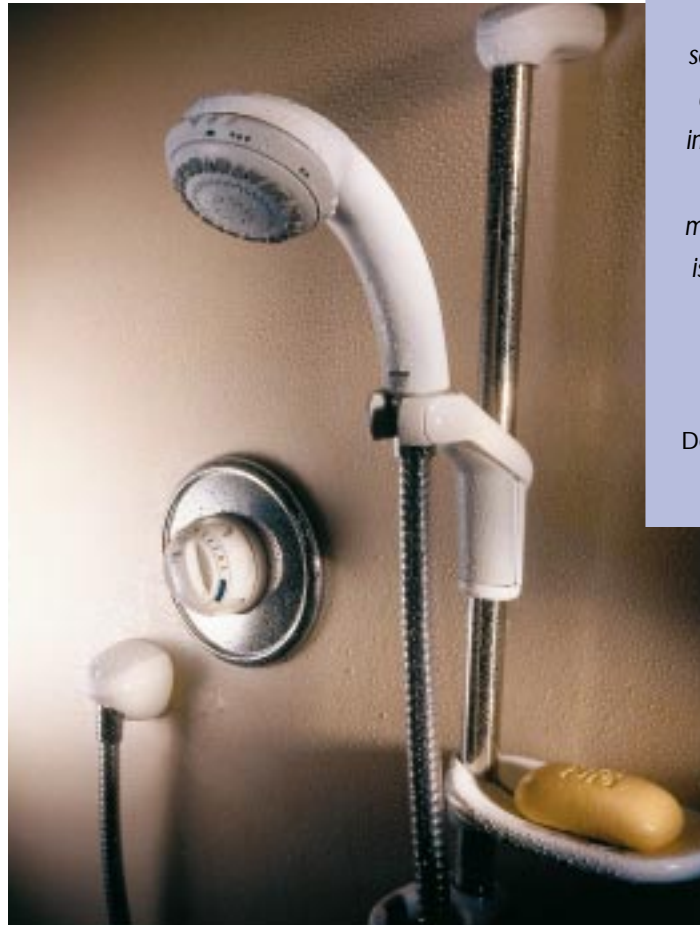
- ✓ Repackage an existing shower mixing valve, updating and restyling the exterior to revitalize the product and extend its life.
- ✓ Get the redesigned product to market as quickly as possible.

PROCESS VISION

- ✓ Select and implement an integrated CAD/CAM/CAE, 3D system that would support the company's new project and resource management matrix by leveraging skills and enabling data sharing.
- ✓ Ensure that the new system chosen could co-exist with the company's previous 2D CAD system until all new product design and analysis is completed in 3D.
- ✓ Create a concurrent, team engineering environment to allow various stages of development to overlap and speed the overall process.

ACTIONS

- ✓ The Caradon Mira engineers migrated the 2D data representing the valve's internal components into I-DEAS Master Series. They then created the new exterior around these components in 3D. This new model held all the information needed to produce prototypes early in the design process.



Caradon Mira Makes a Splash With CAE

"I would recommend SDRC I-DEAS™ software to any company looking for a highly integrated CAD/CAE product. The ability of I-DEAS Master Series™ to seamlessly support the design process via its integrated visualization, design, analysis and manufacturing modules is a key enabler in the pursuit of reducing time-to-market."

- Peter Green
Design Systems Manager
Caradon Mira



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- ✓ Using the fully integrated analysis and visualization capabilities of I-DEAS software, the engineers eliminated whole steps from their old design process. For example, the sand cores inside the valve previously had to be produced separately for evaluation. Using I-DEAS, engineers could extract details of the cores from the valve model to define the waterways. Representatives from the foundry company that supplied Caradon Mira were able to work with the engineers to ensure the viability of these cores by working only with the 3D model.
- ✓ The engineers also used I-DEAS' generative machining capabilities to mill prototypes directly.
- ✓ The 3D product geometry was then electronically transferred to the toolmaker.

RESULTS

- ✓ The design phase of the project was reduced by 35%.
- ✓ The use of 3D guaranteed the integrity of the design concept, creating a higher quality product and eliminating the occurrence of problems later in the development cycle.
- ✓ Greater confidence in the design enabled commitment to tooling at the earliest possible time. By using the 3D model to communicate product geometry information to the toolmakers, Caradon Mira minimized the possibility of misinterpretation and errors, and eliminated the need to produce 2D, detail drawings.
- ✓ Delivery of the valve was achieved within the very tight project time frame.

PLANS

In its first year of use, Caradon Mira engineers have already employed I-DEAS Master Series successfully in the support of four major design projects, and plan to expand the application of the software in a phased approach, until all new product designs are evolved in 3D.

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